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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,613	11/21/2003	Kozo Mori	ED-US020444	8197

22919 7590 02/15/2005

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EXAMINER
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KERSHTEYN, IGOR

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 02/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/717,613

Applicant(s)

MORI, KOZO

Examiner

Igor Kershteyn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/21/2003</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 5, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. (4,186,557) in view of Polzer et al. (4,391,096) in view of Trusov (3,797,243).

Arai et al., in figure 3, teach a torque converter being configured to transmit torque using a fluid comprising: a front cover 5; an impeller 6 being arranged axially opposite said front cover and forming a fluid chamber with said front cover 5, a turbine 7 being arranged in said fluid chamber to face said impeller 6; and a stator 10 being arranged between said impeller 6 and said turbine 7 to redirect flow of the fluid flowing from said turbine to said impeller 6, said impeller 6, said turbine 7, and said stator 10 constituting a torus having a flatness ratio being less than 0.8.

Arai et al. don't teach either part of the torque converter having at least thirty-seven impeller blades.

Polzer et al. in figure 1, and column 9, lines 15-17, teaches a torque converter 10, having a turbine wheel 15 having at least thirty-seven impeller blades 15a.

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Since Arai et al. and Polzer et al. are analogous art because they are from the same field of endeavor, that is the torque converter art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the turbine wheel of Arai et al. with at least thirty-seven blades as taught by Polzer et al. for the purpose of decreasing the slip of the torque converter at higher speeds.

Arai et al. as modified by Polzer et al. teach a turbine wheel having at least thirty seven blades.

Arai et al. as modified by Polzer et al. don't teach an impeller having at least thirty-seven impeller blades.

Trusov, in column 8, lines 25-35, teaches a torque converter having a number of blades of a turbine wheel being substantially the same as a number of impeller blades.

Since Arai et al. as modified by Polzer et al. and Trusov are analogous art because they are from the same field of endeavor, that is the torque converter art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the impeller of Arai et al. as modified by Polzer et al. with the substantially the same number of impeller and turbine wheel as taught by Trusov for the purpose of improving the torque conversion coefficient.

Claims 1, 4, 5, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigemasa et al. (4,726,185) in view of Polzer et al. (4,391,096) in view of Trusov (3,797,243).

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Shigemasa et al., in figures 1-3, teach a torque converter being configured to transmit torque using a fluid comprising: a front cover 10a; an impeller 10 being arranged axially opposite said front cover 10a and forming a fluid chamber with said front cover 10a, a turbine 12 being arranged in said fluid chamber to face said impeller 10; and a stator 14 being arranged between said impeller 10 and said turbine 12 to redirect flow of the fluid flowing from said turbine 12 to said impeller 10, said impeller 10, said turbine 12, and said stator 14 constituting a torus having a flatness ratio being less than 0.8.

Shigemasa et al. don't teach either part of the torque converter having at least thirty-seven impeller blades.

Polzer et al. in figure 1, and column 9, lines 15-17, teaches a torque converter 10, having a turbine wheel 15 having at least thirty-seven impeller blades 15a.

Since Shigemasa et al. and Polzer et al. are analogous art because they are from the same field of endeavor, that is the torque converter art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the turbine wheel of Shigemasa et al. with at least thirty-seven blades as taught by Polzer et al. for the purpose of decreasing the slip of the torque converter at higher speeds.

Shigemasa et al. as modified by Polzer et al. teach a turbine wheel having at least thirty seven blades.

Shigemasa et al. as modified by Polzer et al. don't teach an impeller having at least thirty-seven impeller blades.

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Trusov, in column 8, lines 25-35, teaches a torque converter having a number of blades of a turbine wheel being substantially the same as a number of impeller blades.

Since Shigemasa et al. as modified by Polzer et al. and Trusov are analogous art because they are from the same field of endeavor, that is the torque converter art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the impeller of Shigemasa et al. as modified by Polzer et al. with the substantially the same number of impeller and turbine wheel as taught by Trusov for the purpose of improving the torque conversion coefficient.

Claims 2, 3, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. (4,186,557) as modified by Polzer et al. (4,391,096) as modified by Trusov (3,797,243), further in view of Dodge (2,242,515).

Arai et al. as modified by Polzer et al. as modified by Trusov, teach all the claimed subject matter except that they don't teach the number of impeller blades is a prime number.

Dodge, in figures 1-28, teaches a torque converter having an impeller with the number of impeller blades being a prime number.

Since Arai et al. as modified by Polzer et al. as modified by Trusov and Dodge are analogous art because they are from the same field of endeavor, that is the torque converter art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the impeller of Arai et al. as modified by

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Polzer et al. as modified by Trusov with the prime number of the impeller blades as taught by Dodge for the purpose of prime number of the impeller blades.

Claims 2, 3, and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigemasa et al. (4,726,185) as modified by Polzer et al. (4,391,096) as modified by Trusov (3,797,243) in view of Dodge (2,242,515).

Shigemasa et al. as modified by Polzer et al. as modified by Trusov teach all the claimed subject matter except that they don't teach the number of impeller blades is a prime number.

Dodge, in figures 1-28, teaches a torque converter having an impeller with the number of impeller blades being a prime number.

Since Shigemasa et al. as modified by Polzer et al. as modified by Trusov and Dodge are analogous art because they are from the same field of endeavor, that is the torque converter art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the impeller of Shigemasa et al. as modified by Polzer et al. as modified by Trusov with the prime number of the impeller blades as taught by Dodge for the purpose of prime number of the impeller blades.

#### ***Prior Art***

Prior art made of record but not relied upon is considered pertinent to Applicant's disclosure and consist of seven patents.

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Polzer et al. (4,463,556) is cited to show a torque converter having a wheel with at least thirty seven blades but fails to show the wheel being an impeller.

Nishimura et al. (4,624,105) is cited to show a torque converter having an impeller but fails to teach a flatness ratio less than 0.8 and at least thirty seven impeller blades.

Hayabuchi et al. (4,866,935) is cited to show a torque converter having an impeller but fails to teach a flatness ratio less than 0.8 and at least thirty seven impeller blades.

Becraft (5,058,027) is cited to show a torque converter having an impeller but fails to teach at least thirty seven impeller blades.

Becraft (5,152,139) is cited to show a torque converter having an impeller but fails to teach at least thirty seven impeller blades.

Kirkwood et al. (5,313,793) is cited to show a torque converter having an impeller but fails to teach at least thirty seven impeller blades.

Kirkwood et al. (5,771,691) is cited to show a torque converter having an impeller but fails to teach at least thirty seven impeller blades.

### ***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kershteyn whose telephone number is **(571)272-4817**. The examiner can be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

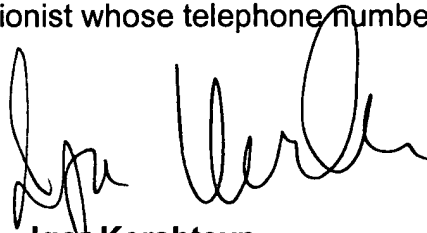


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on **(571)272-4820**. The fax number is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308 0861.

IK  
February 10, 2005

A handwritten signature in black ink, appearing to read 'Igor Kershteyn', is written over the printed name and title.

**Igor Kershteyn**  
**Patent examiner.**  
**Art Unit 3745**